

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims**

1. (Currently Amended) A method, comprising:  
receiving a selection of customer sites to design a network for the customer sites;  
querying a database to determine geographical locations of the selected ~~network~~ customer sites;  
rendering, in a graphical user interface, representations of the selected customer sites in a map at the geographical location of the selected sites in the map;  
receiving selection of at least one network service provider (NSP) from a plurality of available NSPs, wherein each available NSP provides network infrastructure available to the geographical location of the selected customer sites to provide network access at the customer sites;  
querying the database to determine network infrastructure of the selected NSP and geographical locations of the determined network infrastructure; and  
rendering representations of the determined network infrastructure in a map at the determined geographical locations of the determined network infrastructure to render a visualization of the geographical locations of the selected customer sites and network infrastructure of the selected at least one NSP in the map to enable the design of network infrastructure for the selected customer sites.
2. (Original) The method of claim 1, wherein the determined network infrastructure comprises at least one of a switch and a network path, and wherein the network infrastructure geographical location comprises at least one of a switch site location and a route of the network path.
3. (Original) The method of claim 1, wherein the map comprises a street map, and wherein the rendered map visualizes transportation corridors, and wherein the rendered customer sites and network infrastructure are visualized superimposed over rendered transportation corridors in the street map.

4. (Original) The method of claim 1, further comprising:  
receiving user selection of one rendered customer site;  
querying the database to determine information on the selected customer site; and  
rendering the determined information on the selected customer site in a dialog box.

5. (Currently Amended) The method of claim 1, further comprising:  
querying network connection information in the database to determine network  
connections between the rendered customer sites; and  
rendering the network connections between the customer sites in the map to visualize the  
determined network connections.

6. (Currently Amended) The method of claim 5, further comprising:  
receiving a query including search criteria with respect to a parameter concerning  
network connectivity at the customer sites;  
querying the database to determine network connections between customer sites having  
network connectivity information satisfying the search criteria included with the query; and  
rendering the determined network connections in a different visual manner than those  
network connections that do not satisfy the search criteria.

7. (Currently Amended) The method of claim 5, wherein the network connection  
information includes information on at least one of connected sites, connection bandwidth, and  
connection circuit types.

8. (Original) The method of claim 1, further comprising:  
receiving a definition of a buffer region with respect to a selected customer site;  
querying the database to determine NSP network infrastructure located within the defined  
buffer region;  
rendering the buffer region around the rendering of the selected customer site in the map;  
and  
rendering the determined NSP network infrastructure within the defined buffer region in  
the map.

9. (Original) The method of claim 8, wherein NSP network infrastructure rendered within the defined buffer region is rendered differently than NSP network infrastructure rendered outside of the buffer region.

10. (Original) The method of claim 8, further comprising:  
generating a report identifying at least one of: the network infrastructure located within the buffer region, the NSP managing the identified network infrastructure, and a distance of the identified network infrastructure from the selected customer site for which the buffer region is defined.

11. (Original) The method of claim 1, wherein the network infrastructure includes network switches and network paths, wherein rendering the representations of the determined network infrastructure comprises rendering representations of the determined switches in the map, further comprising:

querying the database to determine network paths between the network switches rendered in the map; and

rendering the network paths between the network switches in the map.

12. (Original) The method of claim 11, wherein the map comprises a street map, and wherein the network paths are rendered superimposed over transportation corridors rendered on the map.

13. (Original) The method of claim 11, further comprising:  
receiving user selection of a proposed path between the customer site and one network switch;

rendering the proposed path in the map; and

generating and rendering information on the proposed path in the map, including information on the distance of the proposed path.

14. (Original) The method of claim 1, further comprising:

receiving selection of a plurality of customer sites rendered in the map;

receiving a definition of parameters of a buffer region with respect to the selected customer sites;

determining buffer regions for each of the selected customer sites satisfying the defined parameters for the buffer region;

querying the database to determine NSP network infrastructure located within each determined buffer region;

rendering each determined buffer region around each selected customer site in the map;  
and

rendering the determined NSP network infrastructure within each defined buffer region in the map.

15. (Original) The method of claim 14, further comprising:

generating a report identifying at least one of: the network infrastructure located within the determined buffer regions; the NSPs managing the identified network infrastructure within the determined buffer regions; and, for each selected customer site, a distance of the identified network infrastructure from the selected customer site within the buffer region for the selected customer site.

16. (Currently Amended) A system, comprising:

a processor;

an output device in communication with the processor;

code executed by the processor to cause the processor to perform:

[[i]] receiving a selection of customer sites to design a network for the customer sites;

[[ii]] querying a database to determine geographical locations of the selected ~~network~~ customer sites;

[[iii]] rendering, in a graphical user interface, representations of the selected customer sites in a map at the geographical location of the selected sites in the map;

[[iv]] receiving selection of at least one network service provider (NSP) from a plurality of available NSPs, wherein each available NSP provides network infrastructure

available to the geographical location of the selected customer sites to provide network access at the customer sites;

[[ (v) ]] querying the database to determine network infrastructure of the selected NSP and geographical locations of the determined network infrastructure; and

[[ (vi) ]] rendering representations of the determined network infrastructure in a map at the determined geographical locations of the determined network infrastructure to render a visualization of the geographical locations of the selected customer sites and network infrastructure of the selected at least one NSP in the map to enable the design of network infrastructure for the selected customer sites.

17. (Original) The system of claim 16, wherein the determined network infrastructure comprises at least one of a switch and a network path, and wherein the network infrastructure geographical location comprises at least one of a switch site location and a route of the network path.

18. (Original) The system of claim 16, wherein the map comprises a street map, and wherein the rendered map visualizes transportation corridors, and wherein the rendered customer sites and network infrastructure are visualized superimposed over rendered transportation corridors in the street map.

19. (Original) The system of claim 16, wherein the code further causes the processor to perform:

receiving user selection of one rendered customer site;  
querying the database to determine information on the selected customer site; and  
rendering the determined information on the selected customer site in a dialog box.

20. (Currently Amended) The system of claim 16, wherein the code further causes the processor to perform:

querying network connection information in the database to determine network connections between the rendered customer sites; and

rendering network connections between the customer sites in the map to visualize the determined network connections.

21. (Currently Amended) The system of claim 20, wherein the code further causes the processor to perform:

receiving a query including search criteria with respect to a parameter concerning network connectivity at the customer sites;

querying the database to determine network connections between customer sites having network connectivity information satisfying the search criteria included with the query; and

rendering the determined network connections in a different visual manner than those network connections that do not satisfy the search criteria.

22. (Currently Amended) The system of claim [[16]] 20, wherein the network connection information includes information on at least one of connected sites, connection bandwidth, and connection circuit types.

23. (Original) The system of claim 16, wherein the code further causes the processor to perform:

receiving a definition of a buffer region with respect to a selected customer site;

querying the database to determine NSP network infrastructure located within the defined buffer region;

rendering the buffer region around the rendering of the selected customer site in the map; and

rendering the determined NSP network infrastructure within the defined buffer region in the map.

24. (Original) The system of claim 23, wherein NSP network infrastructure rendered within the defined buffer region is rendered differently than NSP network infrastructure rendered outside of the buffer region.

25. (Original) The system of claim 24, wherein the code further causes the processor to perform:

generating a report identifying at least one of: the network infrastructure located within the buffer region, the NSP managing the identified network infrastructure, and a distance of the identified network infrastructure from the selected customer site for which the buffer region is defined.

26. (Original) The system of claim 16, wherein the network infrastructure includes network switches and network paths, wherein rendering the representations of the determined network infrastructure comprises rendering representations of the determined switches in the map, and wherein the code further causes the processor to perform:

querying the database to determine network paths between the network switches rendered in the map; and

rendering the network paths between the network switches in the map.

27. (Original) The system of claim 26, wherein the map comprises a street map, and wherein the network paths are rendered superimposed over transportation corridors rendered on the map.

28. (Original) The system of claim 26, wherein the code further causes the processor to perform:

receiving user selection of a proposed path between the customer site and one network switch;

rendering the proposed path in the map; and

generating and rendering information on the proposed path in the map, including information on the distance of the proposed path.

29. (Original) The system of claim 16, wherein the code further causes the processor to perform:

receiving selection of a plurality of customer sites rendered in the map;

receiving a definition of parameters of a buffer region with respect to the selected customer sites;

determining buffer regions for each of the selected customer sites satisfying the defined parameters for the buffer region;

querying the database to determine NSP network infrastructure located within each determined buffer region;

rendering each determined buffer region around each selected customer site in the map;  
and

rendering the determined NSP network infrastructure within each defined buffer region in the map.

30. (Original) The system of claim 16, wherein the code further causes the processor to perform:

generating a report identifying at least one of: the network infrastructure located within the determined buffer regions; the NSPs managing the identified network infrastructure within the determined buffer regions; and, for each selected customer site, a distance of the identified network infrastructure from the selected customer site within the buffer region for the selected customer site.

31. (Currently Amended) An article of manufacture for causing operations to be performed, wherein the operations comprise:

receiving a selection of customer sites to design a network for the customer sites;  
querying a database to determine geographical locations of the selected ~~network~~ customer sites;

rendering, in a graphical user interface, representations of the selected customer sites in a map at the geographical location of the selected sites in the map;

receiving selection of at least one network service provider (NSP) from a plurality of available NSPs, wherein each available NSP provides network infrastructure available to the geographical location of the selected customer sites to provide network access at the customer sites;



querying the database to determine network infrastructure of the selected NSP and geographical locations of the determined network infrastructure; and

rendering representations of the determined network infrastructure in a map at the determined geographical locations of the determined network infrastructure to render a visualization of the geographical locations of the selected customer sites and network infrastructure of the selected at least one NSP in the map to enable the design of network infrastructure for the selected customer sites.

32. (Original) The article of manufacture of claim 31, wherein the determined network infrastructure comprises at least one of a switch and a network path, and wherein the network infrastructure geographical location comprises at least one of a switch site location and a route of the network path.

33. (Original) The article of manufacture of claim 31, wherein the map comprises a street map, and wherein the rendered map visualizes transportation corridors, and wherein the rendered customer sites and network infrastructure are visualized superimposed over rendered transportation corridors in the street map.

34. (Original) The article of manufacture of claim 31, wherein the operations further comprise:

receiving user selection of one rendered customer site;  
querying the database to determine information on the selected customer site; and  
rendering the determined information on the selected customer site in a dialog box.

35. (Currently Amended) The article of manufacture of claim 31, wherein the operations further comprise:

querying network connection information in the database to determine network connections between the rendered customer sites; and

rendering network connections between the customer sites in the map to visualize the determined network connections.

36. (Currently Amended) The article of manufacture of claim 35, wherein the operations further comprise:

receiving a query including search criteria with respect to a parameter concerning network connectivity at the customer sites;

querying the database to determine network connections between customer sites having network connectivity information satisfying the search criteria included with the query; and

rendering the determined network connections in a different visual manner than those network connections that do not satisfy the search criteria.

37. (Currently Amended) The article of manufacture of claim 35, wherein the network connection information includes information on at least one of connected sites, connection bandwidth, and connection circuit types.

38. (Original) The article of manufacture of claim 31, wherein the operations further comprise:

receiving a definition of a buffer region with respect to a selected customer site;

querying the database to determine NSP network infrastructure located within the defined buffer region;

rendering the buffer region around the rendering of the selected customer site in the map;  
and

rendering the determined NSP network infrastructure within the defined buffer region in the map.

39. (Original) The article of manufacture of claim 38, wherein NSP network infrastructure rendered within the defined buffer region is rendered differently than NSP network infrastructure rendered outside of the buffer region.

40. (Original) The article of manufacture of claim 38, wherein the operations further comprise:

generating a report identifying at least one of: the network infrastructure located within the buffer region, the NSP managing the identified network infrastructure, and a distance of the

identified network infrastructure from the selected customer site for which the buffer region is defined.

41. (Original) The article of manufacture of claim 31, wherein the network infrastructure includes network switches and network paths, wherein rendering the representations of the determined network infrastructure comprises rendering representations of the determined switches in the map, further comprising:

querying the database to determine network paths between the network switches rendered in the map; and  
rendering the network paths between the network switches in the map.

42. (Original) The article of manufacture of claim 41, wherein the map comprises a street map, and wherein the network paths are rendered superimposed over transportation corridors rendered on the map.

43. (Original) The article of manufacture of claim 41, wherein the operations further comprise:

receiving user selection of a proposed path between the customer site and one network switch;  
rendering the proposed path in the map; and  
generating and rendering information on the proposed path in the map, including information on the distance of the proposed path.

44. The article of manufacture of claim 31, wherein the operations further comprise: receiving selection of a plurality of customer sites rendered in the map;

receiving a definition of parameters of a buffer region with respect to the selected customer sites;

determining buffer regions for each of the selected customer sites satisfying the defined parameters for the buffer region;

querying the database to determine NSP network infrastructure located within each determined buffer region;

rendering each determined buffer region around each selected customer site in the map;  
and

rendering the determined NSP network infrastructure within each defined buffer region in the map.

45. (Original) The article of manufacture of claim 44, wherein the operations further comprise:

generating a report identifying at least one of: the network infrastructure located within the determined buffer regions; the NSPs managing the identified network infrastructure within the determined buffer regions; and, for each selected customer site, a distance of the identified network infrastructure from the selected customer site within the buffer region for the selected customer site.